

**MIND OVER MATTER: APPLICATION OF THE SOCIAL-ECOLOGICAL MODEL IN
UNDERSTANDING HELP-SEEKING BEHAVIOR FOR TREATMENT OF
DEPRESSION AND ANXIETY IN ASIAN AMERICANS**

Joanna Chyu

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Dr. Julie Zuniga, Ph.D., R.N.
School of Nursing
Supervising Professor

Dr. Mary Steinhardt, Ed.D., L.P.C.
Department of Kinesiology and Health Education
Second Reader

ABSTRACT

Author: Joanna Chyu

Title: Mind Over Matter: Application of the Social-Ecological Model in Understanding Help-Seeking Behavior for Treatment of Depression and Anxiety in Asian Americans

Supervising Professors: Dr. Julie Zuniga. Ph.D., R.N.
Dr. Mary Steinhardt, Ed.D., L.P.C.

This thesis aims to examine factors that affect help-seeking behavior for the treatment of anxiety and depression among Asian Americans, using the social-ecological model as a framework of analysis. Although Asian Americans have the highest median income and the highest postsecondary graduation rates of all racial groups in the U.S., Asian Americans exhibit lower utilization rates for mental health services than the general U.S. population. Moreover, a significant literature gap exists in the field of Asian American mental health research, highlighting a need to better understand mental health concerns of the Asian American population.

A meta-analysis was conducted using the PubMed database. Only English-language studies published in the last 10 years with experimental designs and quantitative results were included. Factors affecting help-seeking behavior were examined across four levels of the social-ecological model: the individual, interpersonal, institutional, and societal levels. On the individual level, etiological beliefs were found to promote help-seeking behavior; on the interpersonal level, peer connection promoted help-seeking attitudes; on the institutional level, financial and language barriers discouraged help-seeking behavior; and on the societal level, stigma and Asian values discouraged help-seeking behavior. Findings were synthesized across multiple levels of the social-ecological model, and compared to those of previous studies on Asian American help-seeking behavior.

Lastly, recommendations for reform on each level of the social-ecological model are proposed. Future directions in clinical and research settings are also recommended, in the hopes of improving mental health service utilization among Asian Americans in the future.

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In many ways, this thesis is the culmination of my personal experiences and passions. It reflects my desire to address health disparities as a future physician, my interest in the role of race in modern society, and my previous struggles with mental health as a Taiwanese American, as well as my ongoing efforts to balance ambition and happiness in my daily life. It has not been an easy journey, but I am ultimately grateful for the opportunity to explore a topic that resonates with me on such a personal level.

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CHAPTER I: INTRODUCTION

State of Asian American Mental Health

Depression is a common mental disorder among adults in the United States (Brody et al., 2018). In a 2013 to 2016 survey conducted by the National Center for Health Statistics, 8.1% of adults aged 20 and over experienced depression in a two-week period (Brody et al., 2018). Among adults experiencing depression, roughly 80% reported impaired functioning in their home, work, and social lives (Brody et al., 2018). However, racial differences in the prevalence of depression exist. In a three-year period, Asian American adults exhibited the lowest prevalence of depression (3.1%), compared to Hispanic (8.2%), White (7.9%) and Black (9.2%) adults (Brody et al., 2018). Additionally, Asian American adults exhibited the lowest prevalence of any serious mental illness in a 2017 survey (SAMHSA, 2017). Despite their low prevalence of depression, only 34.1% of Asian Americans with a probable mental illness diagnosis sought mental health services in a given period, compared to 41.1% of the U.S. population (Abe-Kim et al., 2007). Interestingly, U.S.-born Asian Americans exhibit higher utilization rates than their immigrant counterparts, suggesting that acculturation may play a role in affecting help-seeking behavior (Abe-Kim et al., 2007).

In addition to exhibiting lower utilization rates, other findings raise concerns over the state of mental health among Asian Americans. Asian American female adolescents aged 15 to 24 exhibit the highest rate of suicide deaths (14.1%) compared to White (9.3%), Black (3.3%), and Hispanic (7.4%) female adolescents (Lee et al., 2009). Symptoms of depression among Asian Americans have also been found to be persistent and last for significant periods of time (Kim et al., 2015). Considered collectively, these findings highlight the need to better understand service utilization and help-seeking behavior among Asian American populations.

In spite of the troubling mental health statistics of Asian Americans, help-seeking behavior among the population has not been widely researched (Liu, 2018). Previous studies have identified barriers to help-seeking such as stigma, unfamiliarity with services, low income, and lack of health insurance (Tung, 2011). However, previous studies have not taken a holistic approach to understanding help-seeking behavior among Asian Americans (Tung, 2011). Moreover, Asian Americans tend to be aggregated with other minority groups in research studies, or excluded from the sample population altogether, obscuring the current prevalence rates of depression among the population (Liu, 2018).

As a result of the relatively sparse amount of research on the mental health of Asian Americans, a literature gap exists that makes it difficult for policy makers and healthcare providers to develop solutions for increasing help-seeking behavior. Moreover, few studies have been conducted on Asian American individuals with limited English proficiency, highlighting an additional gap in the research on Asian American mental health (Kim et al., 2015). Because of the serious consequences of mental illness, there is a significant need to better understand help-seeking behavior among Asian Americans, in the hopes of improving utilization rates and mental health services to future populations.

History of Asian Americans

To better understand help-seeking behavior among Asian Americans, the cultural background and history of Asian Americans should first be considered. As an umbrella term, “Asian Americans” include people of Eastern, Southern, and Southeastern Asian descent who reside in the U.S. (Lopez et al., 2017). Asian American history begins with Chinese migration to the U.S. in the nineteenth century, followed by periods of Japanese, South Asian, Korean, and Filipino migration before World War II. Following 1965, a new wave of immigration greatly diversified the Asian American population, as immigrants from the Philippines, Pakistan, Vietnam, Cambodia, and Laos settled in the U.S. (Lee, 2016).

Although Asian Americans represent many ethnicities, Chinese Americans have historically made up the majority of the population (Lopez et al., 2017). Due to their status as the largest origin group, Chinese Americans require a more in-depth discussion in the context of Asian American history. Chinese Americans received great pushback when they initially immigrated in the nineteenth century, due to concerns over their stealing of American jobs (Lee, 2016). Later, driven by years of racist propaganda, the Chinese Exclusion Act of 1882 was passed to legally prohibit Chinese immigration into the U.S. (Lee, 2016). The Chinese Exclusion Act was unprecedented in its blockade of foreign individuals from the U.S., and further encouraged discrimination against Chinese Americans by business owners and politicians (Lee, 2016).

As a result of World War II, however, Chinese Americans became viewed more positively during the twentieth century. American animosity toward the Japanese caused greater acceptance of Chinese Americans, who became viewed as allies of the U.S. and China. Although this period of “racial liberalization” was beneficial to Chinese Americans, post-WWII

perceptions of Chinese Americans evolved into a “model minority” stereotype that posed new problems. The stereotype upheld Chinese Americans as the role model for other minority groups, presenting them as hardworking and successful. Ironically, the model minority stereotype highlighted the ability of Chinese Americans to overcome barriers in employment and housing, although those barriers were largely implemented by the U.S. government (Lee, 2016).

The model minority stereotype was problematic in that it was constructed by the non-Asian, American public, rather than by Chinese Americans themselves. Moreover, the stereotype exaggerated the improved economic standing of Chinese Americans, as they were only slightly better off than before the war. Today, the model minority stereotype can be applied to other Asian American ethnicities as well, due to the aggregation of Asian ethnicities under the broad label of “Asian American” (Lee, 2016). Furthermore, the model minority stereotype may hinder help-seeking behavior among Asian American college and high school students, by placing pressure on students to achieve academic and financial success. However, interaction between other Asian values and the model minority stereotype at the societal level may generate findings that are both surprising and complex.

Asian Cultural Values

Although Asian Americans have diverse countries of origin, certain beliefs shared among Asian countries may also influence help-seeking behavior. The most widely practiced religions in East Asia, Buddhism, Taoism, and Confucianism, may affect help-seeking behavior among Asian Americans who espouse their teachings (Kitagawa, 2016). Confucian values are centered around the “five ethical relationships,” or *wulun*, and emphasize harmony and stability among individuals; the five relationships include that of the ruler-minister, father-son, elder brother-

younger brother, husband-wife, and friend-friend (Kolstad & Gjesvik, 2014). Significantly, balance within each relationship is desired to achieve social harmony (Kolstad & Gjesvik, 2014). As a result, Confucianism values are collectivist in nature and tend to promote the views of others (Kolstad & Gjesvik, 2014).

Daoism, on the other hand, emphasizes flexibility and acceptance in the individual (Kitagawa, 2016). The “Dao,” after which Daoism is named, is a type of internal energy that espouses *wu wei*, or “nonaction,” to achieve inner peace and happiness (Kitagawa, 2016). Additionally, Daoism draws on concepts of naturality to promote acceptance and understanding in the individual. Like Daoism, Buddhism emphasizes feelings of peace and acceptance, but focuses on emptying the self of its ego and desires (Kitagawa, 2016).

Alternative forms of medicine used in Asian countries may also affect help-seeking behavior among Asian Americans. Traditional Chinese Medicine, or TCM, is a field of Eastern medicine that originated in ancient China, but is practiced in similar forms in other countries throughout Asia (Kolstad & Gjesvik, 2014). TCM views the mind and body as interconnected, using holistic approaches such as acupuncture and herbal medicine to treat disease. Because TCM perceives the mind and body as related entities, mental illnesses may be viewed as a health concern only if somatic symptoms manifest (Kolstad & Gjesvik, 2014). Somatic beliefs of illness are additionally tied to the concept of illness labeling, which may be influenced by cultural factors unique to Asian countries (Angel & Thoits, 1987). Previous studies on the subjective experience of illness suggest that certain diseases, such as mental disorders, may be labeled differently across cultures, even when presented with the same set of symptoms (Angel & Thoits, 1987). Thus, somatization beliefs and illness labeling are other factors that may affect help-seeking behavior among Asian Americans (Angel & Thoits, 1987).

Additionally, the current state of mental health services in Asia may influence Asian American help-seeking behavior. According to the World Health Organization (WHO), although mental health policies have been developed in some Asian countries, implementation at the community level remains a challenge (Sharan et al., 2017). Moreover, providing mental health services remains a low national priority among 5 out of 11 countries in Southeast Asia, as seen by delays in passing legislation, or by inadequate allocation of human and financial resources to mental health infrastructure (Sharan et al., 2017).

The effects of Asian religions, beliefs toward TCM, and mental health infrastructure in Asian countries may have varying consequences on help-seeking behavior among Asian Americans. Such factors illustrate the wide range of variables that may affect help-seeking behavior among the population, setting the stage for the synthesis of diverse findings.

The Social-Ecological Model

Due to the diversity of Asian American history and culture, many factors may affect help-seeking behavior among Asian American populations. The social-ecological model offers one such framework to holistically examine a large variety of factors that affect health behavior (Golden & Earp, 2012). The social-ecological model is commonly used in public health to study increasing levels of factors that influence health behavior, such the individual, interpersonal, institutional, and societal levels (Golden & Earp, 2012). The model thus views individuals within a holistic, complex social system, making it ideal for examining a wide range of effects on help-seeking behavior (Golden & Earp, 2012). Both hindering and protective factors will be examined in this study, as previous research using the ecological model has only examined barriers, but not facilitators, to help-seeking among Asian Americans (Takayama, 2010). Moreover, while

Yamashiro and Matsuoka also took an ecological approach to discussing help-seeking among Asian Americans, they focused primarily on the effects of culture and worldview on help-seeking behavior (Yamashiro & Matsuoka, 1997).

At the individual level, demographic factors such as age and gender, biological factors such as genetic predisposition to disease, and intangible factors such as knowledge, beliefs, and attitudes may influence help-seeking behavior (Boutin-Foster et al., 2013). Individual-level factors affecting help-seeking among Asian Americans will primarily consist of beliefs, such as etiological beliefs toward the cause of depression, and beliefs toward the efficacy of TCM for treating mental illness. Illness beliefs such as labeling of depression will also be examined on the individual level. Because of the ability for beliefs to affect thoughts and behavior, beliefs have a large capacity to influence help-seeking behavior through individual level-effects.

Interpersonal level factors are those involving interactions with others in one's social network (Boutin-Foster et al., 2013). Factors on the interpersonal level will consist of interactions among peer groups in Asian American students (Boutin-Foster et al., 2013). Previous findings of increased suicide rates among Asian American female adolescents further warrant the study of help-seeking behavior among Asian American student populations (Lee et al., 2009). Social relationships may also exert significant effects on help-seeking behavior at the interpersonal level, due to the impact of family and friends on individual health behavior.

On the institutional level, factors include informal and formal institutional regulations or policies that affect health behavior (Boutin-Foster et al., 2013). These may take the form of hospital or insurance policies that affect help-seeking behavior among Asian Americans. As such, the impact of financial barriers on help-seeking behavior will be examined at the institutional level, because financial considerations are inextricably tied to the policies of

insurance companies and hospitals. Additionally, the effects of limited English proficiency on help-seeking behavior will be examined on the institutional level, through viewing language as a component of an institution's informal structure. Due to their enforcement by administrative systems, institutional barriers may also present significant challenges to help-seeking among Asian Americans.

Societal level factors are informal or formal norms existing among groups of individuals that may affect health behavior (Boutin-Foster et al., 2013). At the societal level, cultural values such as conformity to the norm, humility, emotional self-control, family recognition through achievement, and internalized model minority myth will be examined for their effects on help-seeking behavior. Additionally, overarching societal factors such as stigma and collectivism will be examined for their impact on help-seeking among Asian American populations.



Figure 1. Social-Ecological Model of Health Behavior

Purpose

The purpose of this paper is to examine factors at each level of the social-ecological model that affect help-seeking behavior among Asian Americans, for the treatment of anxiety and depression. Low utilization rates among Asian Americans, as well as high rates of suicide among Asian American female adolescents, warrant a closer examination of factors unique to the population that may affect help-seeking behavior. Furthermore, the relatively sparse amount of research on Asian American mental health compels a deeper understanding of help-seeking behavior in the population. Findings on each level of the model will be discussed and used to propose recommendations for reform.

Because previous psychological studies have largely aggregated Asian American ethnicities into a single group, the studies examined in this paper primarily consist of sample populations encompassing many Asian ethnicities (Kim, et al., 2015). However, Chinese Americans will be examined on their own in two studies in this paper, in the context of Traditional Chinese Medicine and illness beliefs. The holistic analysis of factors affecting help-seeking behavior among Asian Americans thus holds great potential for offering solutions for reform, on multiple levels of the model.

CHAPTER II: METHODS

A meta-analysis was conducted for the purposes of this study. The PubMed database was systematically searched using the following keywords: mental health, depression, anxiety, Chinese American, Asian American, utilization, help seeking, and access to care. Specifically,

the search strategy in PubMed was: (((((Mental Health) OR Anxiety) OR Depression)) AND ((Chinese American) OR Asian American)) AND (((utilization) OR help seeking) OR access to care).

The Preferred Reporting Items for Systematic Review and Meta-Analysis Checklist (PRISMA) was followed for selecting articles for review. Inclusion criteria consisted of: English-language studies conducted in the U.S., experimental studies with quantitative results, and articles that were published in the last ten years (2009 to 2019). Retrieved articles were screened at each step of the PRISMA checklist, as shown by Figure 1.

The sample population for this literature review consists of Asian and Chinese Americans aged 18 to 65. Sample groups primarily consist of Asian American middle-aged adults, as previous mental health statistics are largely derived from this population (Kim, et al., 2015). However, help-seeking behavior among Asian American college and high school students were also examined in half of the selected articles, to better understand interpersonal and societal level effects on help-seeking behavior.

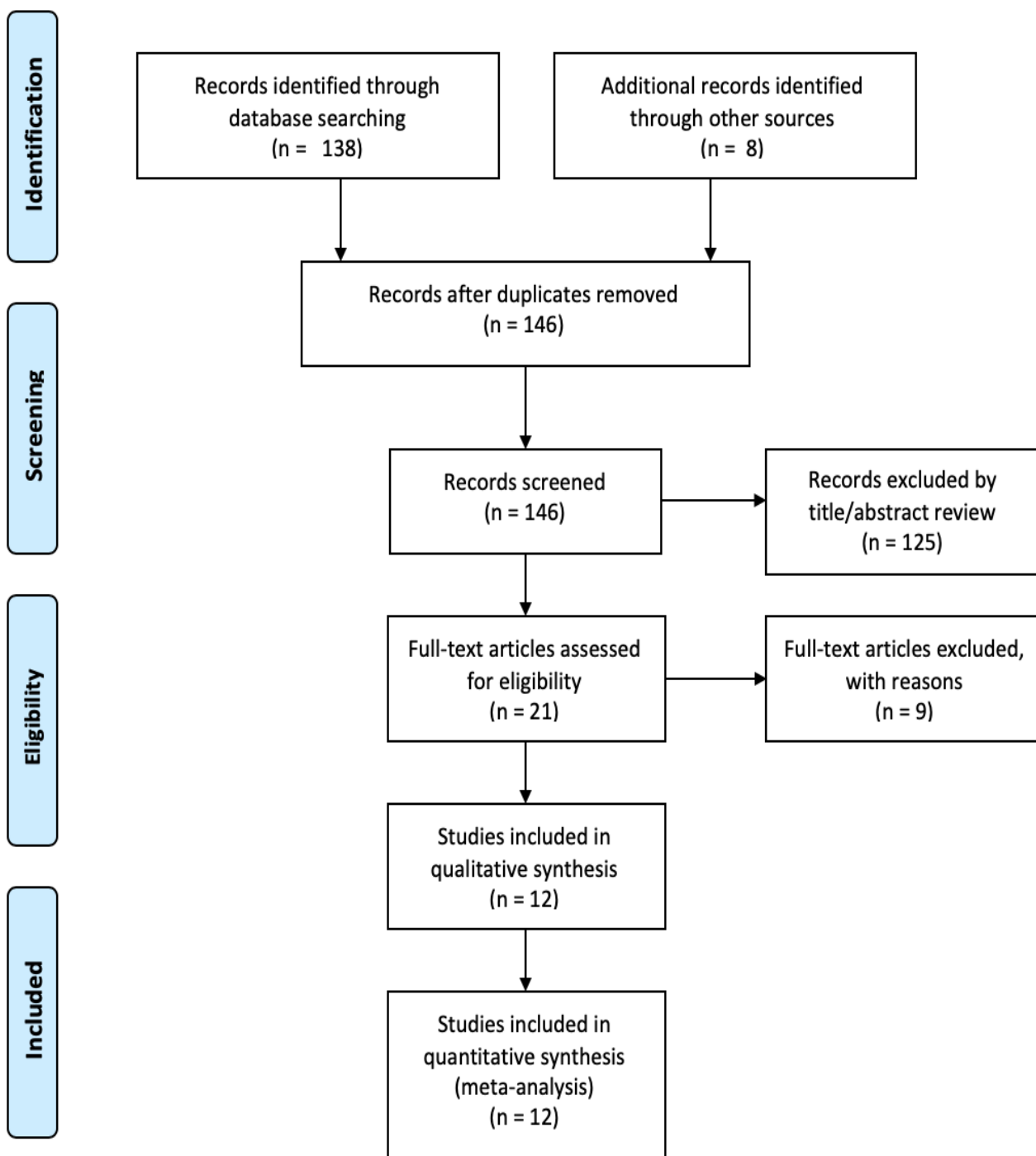


Figure 2: PRISMA Flow Diagram

CHAPTER III: FINDINGS

The literature search yielded 138 articles from the PubMed database, with an additional 8 articles identified through Google Scholar. After the title and abstract screening process, 21 potentially eligible studies were identified. Articles with non-experimental or qualitative designs were excluded, after which 12 were selected for qualitative synthesis (see Table 1). All 12 articles were kept for the final quantitative synthesis (meta-analysis). The number of participants represented across all studies was 52,157.

Multiple factors at each level of the social-ecological model had significant effects on help-seeking behavior among Asian American populations. In addition, both protective and hindering effects on help-seeking behavior were observed on multiple levels of the model. Of the 12 articles selected for synthesis, 4 studies assessed Asian American adult populations, 6 assessed Asian American college or high school students, and 2 focused solely on Chinese American adults. Among the 2 studies on Chinese Americans, 1 study focused on Chinese American immigrants. Key topic areas also emerged from the literature search. Specifically, 3 articles discussed the effect of stigma on help-seeking behavior, 2 discussed enculturation to Asian values, 2 discussed the role of academic pressures, 2 discussed the effects of limited English proficiency, and 3 discussed etiological beliefs toward depression.

Studies focused on outcome measures such as professional help-seeking behavior, willingness to see a counselor, and help-seeking attitudes. Studies primarily used cross-sectional survey methods (N= 10) to assess help-seeking behavior among Asian American and Chinese American populations. Longitudinal methods (N= 2). were also used to assess help-seeking behavior of Asian American adults with limited English proficiency. The Asian American

Values Scale-Multidimensional Survey (AAVS-M) (N= 3) was used across multiple studies to measure enculturation to Asian values among subjects. The AAVS-M has 5 subscales: collectivism, conformity to the norm, emotional self-control, family recognition through achievement, and humility. Vignettes were used in 3 studies to assess participants' beliefs toward hypothetical cases of depression.

Individual Level Factors

Traditional Chinese Medicine & Somatization. Beliefs toward Traditional Chinese Medicine efficacy and somatization of depression were examined on the individual level of the social-ecological model. Belief in somatic consequences of depression was correlated with greater help-seeking, but only among Asian Americans with high levels of enculturation to Asian values (Wong et al., 2009). Wong (2009) reported that Asian Americans (N=223) with high levels of enculturation to Asian values showed greater odds of help-seeking if they also endorsed somatic consequences of depression (OR=1.80, $p<.05$). In comparison, Asian Americans with low levels of enculturation to Asian values, belief in somatic consequences of illness was not significantly related to endorsing help-seeking (OR=.71, $p>.05$; Wong et al., 2009). In effect, enculturation to Asian values, such as belief in somatic consequences of depression, was inversely related to the likelihood of professional help-seeking (Wong et al., 2009).

Chinese Americans generally viewed mental and physical disorders as distinct conditions (Yang et al., 2009). Moreover, subjects were less likely to rate psychiatric illnesses as 'an illness like any other' than to rate physical illnesses the same way, suggesting that mental disorders were perceived as a unique type of illness ($t= 1.81, p =.07$; Yang et al., 2009). Results support

recent findings that Chinese Americans increasingly perceive mental illness as distinct from physical illness (Yang et al., 2009).

Among Chinese American immigrants (N=175), psychological symptoms of depression (52.1%) were also endorsed over physical symptoms of depression (41.6%), contradicting previous findings that showed the opposite (Chen et al., 2015). Additionally, Chinese American adults (N=90) perceived TCM as more effective for treating physical rather than mental disorders, suggesting that they are more likely to use TCM to treat physical rather than mental ailments ($t = 2.60, p < .01$; Yang et al., 2009).

Within Chinese Americans with a mean age of 41.8 years, U.S.-born and China/Taiwan-born Chinese Americans had significantly different perceptions toward TCM efficacy for treating mental illness (Yang et al., 2009). U.S.-born Chinese Americans (N=11) perceived TCM as less efficacious for treating psychiatric disorders than did China/Taiwan-born Chinese Americans ($N = 35$; $F \text{ ratio} = 3.35, p = .07$; Yang et al., 2009). Such findings support the hypothesis that foreign-born Chinese Americans view TCM more favorably than their U.S.-born counterparts (Yan et al., 2009). These results may also partly be explained by Wong's finding that greater enculturation to Asian values (including belief in TCM efficacy) correlates with lower odds of professional help-seeking among Asian American adults (Wong et al., 2009).

Etiological Beliefs. Both biological and situational etiological beliefs were found to improve help-seeking attitudes on the individual level. Biological causes of depression include poor diet, sleep problems, neurological processes, and hormonal imbalances, while situational causes of depression include traumatic events, life transitions, and other environmental circumstances (Wong et al., 2009). Among Asian American adults with a mean age of 23.57

($N=223$), belief in biological causes of depression was positively related to endorsing help-seeking ($X^2(1)=11.71$; $p=.001$; Wong et al., 2009). Specifically, participants who espoused biological causes of depression were 1.65 times more likely to exhibit professional help-seeking than those who did not espouse biological causes of depression ($OR= 1.66$, $p = .001$; Wong et al., 2009). Belief in situational causes of depression was also positively related to endorsing help-seeking ($X^2(1)= 11.71$, $p=.001$; Wong et al., 2009). Notably, participants were 1.66 times more likely to endorse help-seeking if they believed in situational causes of depression ($OR=1.66$, $p=.001$; Wong et al., 2009).

In addition, biological and spiritual etiological beliefs both lessened the negative impact of emotional self-control on help-seeking attitudes, among Asian American college students with a mean age of 20.10 years ($N=232$; Kim, 2015). Although both etiological beliefs exerted a significant indirect effect on help-seeking attitudes, spiritual beliefs more strongly reduced the negative impact of emotional self-control on help-seeking attitudes ($B = .151$, $p= .0001$ vs. $B = .073$, $p = .026$; Kim, 2015). Kim's finding on biological etiological beliefs also supports Wong et al.'s findings that belief in biological causes of depression increases help-seeking behavior (Wong et al., 2009).

Other etiological beliefs, such as belief in personal failure as the cause of depression, also had significant effects on help-seeking behavior. Belief in personal failure as the cause of depression included the failure to achieve one's goals, shame, guilt, or failure to meet others' expectations (Wong et al., 2009). However, the effect of this etiological belief on help-seeking behavior differed among participants of high and low enculturation to Asian values (Wong et al., 2009). The belief that depression was caused by personal failure was significantly related to lower odds of help-seeking, but only among participants with high enculturation to Asian values

(OR=.63, $p < .05$; Wong et al., 2009). Participants with low levels of enculturation did not show a significant relationship between belief in personal failure and help-seeking behavior (OR=1.30, $p > .05$; Wong et al., 2009).

Illness Beliefs. Chinese immigrants diagnosed with depression at the South Cove Community Health Center (N=175) were largely able to identify their depression as a psychological or mood disorder, even though they still espoused self-help over professional help (Chen et al., 2015). Subjects were asked to label the name of their problem and allowed to select multiple responses, producing “Depressed mood/unhappiness/mood problems” (35.3%), and “Depression (as a mental disorder)” (32.6%), as the most highly selected responses (Chen et al., 2015). This finding contradicts previous studies suggesting that Asian Americans are unable to identify their emotions, a condition known as alexithymia (Chen et al., 2015).

When asked what the most important type of treatment for their depression was, participants largely chose self help/lay help (75.3%), as opposed to help from a mental health professional (4.7%), spiritual help (9.5%), or “alternative treatment from others (homeopathy, herbal, acupuncture, etc.)” (2.6%) (Chen et al., 2015). Responses show that although Chinese American immigrants diagnosed with depression are able to label their problem as a mental illness or mood disorder, they still primarily endorse self help/lay help over professional help (Chen et al., 2015). Thus, illness labeling may have a non-significant effect on help-seeking behavior among Chinese American immigrants, though this relationship was not directly assessed in the study (Chen et al., 2015).

Additionally, emotional self-control was negatively correlated with help-seeking attitudes among Asian American college students in another study ($r = -.34$, $p < .001$; Kim, 2015). This

finding is consistent with the current literature, which suggests that emotional self-control may be incompatible with therapy, because counseling services encourage individuals to openly discuss their feelings and emotions (Kim, 2015).

Interpersonal Level Factors

Peer Connection. The effect of peer connection on help-seeking behavior was examined on the interpersonal level. Interpersonal causes of depression (relationship conflicts, lack of social network) significantly decreased the odds of endorsing help seeking among Asian American undergraduate students ($N=223$) with low levels of enculturation to Asian values ($OR=.52, p<.05$; Wong et al., 2009). However, interpersonal causes of depression had no significant effect on help-seeking among Asian American undergraduate students with high levels of enculturation to Asian values ($OR=1.25, p>.05$; Wong et al., 2009). Thus, only among Asian American students with low enculturation to Asian values did interpersonal causes of depression decrease help-seeking behavior (Wong et al., 2009).

Peer connection also had a protective effect on mental wellbeing among Asian American high school students in grades 9 through 11 ($N=645$; Polk et al., 2018). Students who had more positive interpersonal relationships with peers and teachers had lower levels of depression and higher GPAs than those who had less positive interpersonal relationships ($p<.001$; Polk et al., 2018). Additionally, Asian American male students experienced a stronger sense of belonging ($F(1, 659) = 12.10, p<.01$), higher level of well-being ($F(1, 655) = 25.79, p < .001$), more positive student-teacher relationships ($F(1, 650) = 8/52, p<.01$), and lower levels of depression ($F(1, 651) = 48.22, p<.001$) than Asian American female students (Polk et al., 2018). These results may help explain the fact that Asian American female adolescents exhibit the highest rate

of suicide deaths across all racial categories of the age group, though more research is required to make a conclusion (Lee et al., 2009).

Concerningly, Asian American students with a mean age of 19.8 years (N=395) showed overall higher levels of distress than their White counterparts, in addition to having less prior use of mental health services (Cramer's $V = .21$; Kim, 2016). These results support previous findings that Asian American adults exhibit lower utilization rates than the U.S. population, suggesting that lower utilization rates are not confined to the Asian American adult age group (Abe-Kim et al., 2007).

Institutional Level Factors

Limited English Proficiency. Language proficiency was examined on the institutional level, as language was interpreted as an informal structure of institutions such as hospitals and clinics. Limited English proficiency (LEP) among Asian Americans hindered help-seeking behavior in one study, but did not have a significant effect on help-seeking behavior in a second study. Specifically, among Asian American adults sampled from the National Latino and Asian American Study (N=2,095), limited English proficiency individuals were significantly less likely to use general and specialty care services than their English-proficient counterparts (LEP 10.3% vs. EP 24.5%, $p < .01$; Bauer, 2010). However, among Asian American adults (N=372) in a second study, limited English proficiency did not significantly affect mental health service use (OR = 0.30; Kim et al., 2011). These conflicting results suggest that experimental factors may be affecting service utilization across the two studies, such as differences in the sample population or study design.

Despite the conflicting results, other findings suggest that limited English proficiency does in fact hinder help-seeking behavior among Asian Americans. Asian Americans with limited English proficiency were significantly less likely to identify a need for treating their mental illness than their English-proficient counterparts (LEP 16.4% vs. EP 39.7%, $p < .01$; Bauer, 2010). Additionally, a greater percent of Asian Americans with limited-English proficiency reported having an education of 11 years or fewer (LEP 29.3% vs. EP 4.4%, $p < .001$; Bauer, 2010). Asian Americans with limited-English proficiency were also more likely to have no health-insurance compared to English-proficient individuals (LEP 26.3% vs. EP 13.5%, $p = .027$; Bauer, 2010). Taken together, these findings strongly suggest that limited English-proficiency individuals are at greater risk for service underutilization than are their English-proficient counterparts.

Moreover, among Asian Americans with limited English proficiency who were identified with a mood disorder, subjects were generally unaware of their mental health problems, with only 31% assessing their mental health as “fair or poor” (Kim et al., 2011). This finding suggests that limited English proficiency individuals may be less likely to seek help because they are not aware of their mental disorders in the first place (Kim et al., 2011). However, these results contradict Chen et al.’s previous findings that Chinese American immigrants are largely able to label their symptoms as depressed mood or depression, and suggest that differences in samples or survey methods may have affected results (Chen et al., 2015).

Asian Americans with limited English proficiency showed other differences that implicate the negative effect of language barriers on help-seeking behavior. Limited English proficiency individuals lived with untreated psychiatric disorders for significantly longer than their English-proficient counterparts (LEP 16.3 years vs. EP 9.0 years, $p < 0.001$; Bauer, 2010).

LEP individuals also endorsed more barriers to entering treatment (LEP 8.0 vs. EP 4.9, $p < 0.10$), and more greatly endorsed a language barrier to entering treatment (LEP 36.2% vs. EP 0.0% $p = 0.12$), compared to their English-proficient counterparts (Bauer, 2010).

Although studies yield conflicting results on the effects of limited English proficiency on help-seeking behavior, other findings strongly suggest that limited English proficiency individuals are discouraged from seeking help. The unfavorable mental health outcomes of Asian Americans with limited English proficiency further highlight the need for more research on the effects of language barriers in Asian American populations.

Financial and Academic Concerns. Financial and academic concerns were examined on the institutional level, due to their ties to institutional structures. Financial barriers were considered an institutional level factor because they represent the policies of institutions such as insurance companies and hospitals. Academic concerns were also examined on the institutional level, because they stem from the educational policies of academic institutions. Firstly, Asian American college students with a mean age of 19.8 years ($N = 395$) had greater levels of psychological distress than their White counterparts ($d = 0.20$; Kim, 2016). Despite having greater levels of psychological distress, Asian American students had lower help-seeking intentions ($\beta = -.44$, $SE = .13$, $p = .001$; Kim, 2016). Such findings are concerning, as they suggest that although Asian American students experience greater distress than their White peers, they exhibit lower help-seeking behavior.

Asian American college students also attributed greater financial ($d = 0.24$) and academic concerns ($d = 0.19$) to their elevated levels of psychological distress, compared to their White counterparts (Kim, 2016). Collectively, these findings indicate that both financial hardship and

academic pressures may negatively impact the mental health of Asian American college students, and may contribute to lower help-seeking intentions observed among the population (Kim, 2016).

The negative effect of financial concerns on service utilization was additionally supported by Lipson's study. Lipson found that among Asian American undergraduate and graduate students ($N=43,375$), financial barriers were associated with significantly lower odds of medical service use (Lipson, 2018). Specifically, Asian American students had 64% lower odds of medication use and 51% lower odds of therapy use than their White counterparts, due to financial barriers (Lipson, 2018). As such, these results support Kim's finding that financial barriers negatively affect service utilization among Asian American college students (Kim, 2016).

While lower service utilization among Asian American college students may be explained by financial barriers, they may also be explained by general perceived barriers toward treatment (Kim, 2016). Asian American undergraduate students with a mean age of 19.8 ($N=395$) perceived less benefit from treatment ($\beta = -.26, SE = .11, p = .02$) and greater general barriers to treatment ($\beta = .33, SE = .09, p < .001$) than their White peers (Kim, 2016). This finding suggests that financial barriers may interact with other perceived barriers to treatment to negatively affect help-seeking behavior among Asian American undergraduate students.

Societal Level Factors

Stigma. Stigma was assessed as a societal-level factor due to its categorization as an informal norm that exists among groups of individuals (Boutin-Foster et al., 2013). Various types of stigma were shown to have a significant hindering effect on help-seeking behavior among

Asian American students. Personal stigma, or stigma directed toward oneself for seeking counseling, was associated with lower odds of help-seeking among Asian American undergraduate and graduate students ($N=13,412$) between the ages of 18 and 22 ($OR= .54$, $p<.001$) (Lipson, 2018). Moreover, personal stigma was the highest among Asian American college students, compared to other minority racial groups ($p<.01$; Lipson, 2018). Thus, based on Lipson's findings, it appears that Asian American college students may experience a disproportionately large effect of personal stigma on help-seeking behavior, compared to other racial groups (Lipson, 2018).

Public stigma, on the other hand, refers to an individual's perception of society's stigma toward counseling (Choi & Miller, 2014). Among Asian American and Pacific Islander college students with a mean age of 21.74 years ($N=278$), public stigma was related to diminished willingness to seek counseling through the following indirect pathway: Asian values \rightarrow public stigma \rightarrow self-stigma \rightarrow attitudes \rightarrow willingness to seek counseling ($B= -.122$, $SE= .035$; Choi & Miller, 2014). In effect, public stigma had an indirect but diminishing effect on the willingness to seek counseling ($p<.05$; Choi & Miller, 2014).

Similarly, stigma by close others (e.g. family and friends) was related to diminished willingness to seek counseling through a second indirect pathway: Asian values \rightarrow stigma by close others \rightarrow self-stigma \rightarrow attitudes \rightarrow willingness to seek counseling ($B= -.032$, $SE= .015$; Choi & Miller, 2014). Results suggest that stigma by close others, such as by friends and family, may diminish help-seeking behavior by causing individuals to fear losing friendships, or to fear damaging their family's reputation (Choi & Miller, 2014). Stigma by family members may also cause individuals to develop negative attitudes toward help-seeking, which would diminish their willingness to seek counseling (Choi & Miller, 2014). Results across Lipson and Choi's studies

thus suggest that different types of stigma may each hinder help-seeking behavior among Asian American undergraduate students.

Essentially, Asian cultural values had a significant moderating effect on the negative relationship between public stigma and help-seeking attitudes, and between stigma by close others and help-seeking attitudes (Choi & Miller, 2014). As a result, Asian American students who more greatly espoused Asian cultural values showed a greater negative effect of stigma on help-seeking attitudes, for both public stigma and stigma by close others (Choi & Miller, 2014). However, students who more greatly espoused European cultural values showed an increased willingness to seek counseling through the following indirect pathway: European American values \rightarrow public stigma \rightarrow self-stigma \rightarrow attitudes \rightarrow willingness to seek a counselor ($B = 0.40$ $SE = 0.29$; Choi & Miller, 2014). Thus, individuals who espoused higher levels of European cultural values were less likely to feel stigmatized about counseling, and showed more positive attitudes toward help-seeking (Choi & Miller, 2014).

Based on the above findings, Asian cultural values may strengthen the hindering effect of stigma on help-seeking behavior, while European cultural values may weaken the hindering effect of stigma on help-seeking behavior (Choi & Miller, 2014). It is interesting to note, however, that this observation was only observed for public stigma, but not for stigma by close others (Choi & Miller, 2014). This finding may be explained by stronger perceptions of public stigma in collectivist Asian cultures, causing public stigma to exert a greater hindering effect on help-seeking behavior than does stigma by close others (Choi & Miller, 2014).

Social stigma, or the perception that a person who seeks help is socially undesirable, was not significantly related to help-seeking intentions among Asian American undergraduate students with a mean age of 19.8 ($N=395$; $p>.05$; Kim, 2016). Additionally, neither social stigma

nor self-stigma was negatively correlated with general help-seeking intentions ($R^2 = .01$ and $-.07$, respectively), or with specific help-seeking intentions ($R^2 = -.04$ and $-.08$, respectively; Kim, 2016). These findings further highlight the distinct effects of stigma types on help-seeking behavior among Asian American students.

Overall, results suggest that, while different types of stigma exert different effects on help-seeking behavior among Asian American students, public and personal stigma exert the most direct hindering effect on help-seeking behavior.

Asian Values. Asian values had both protective and hindering effects on help-seeking attitudes across three studies. Asian cultural values such as emotional self-control, humility, collectivism, conformity to the norm, internalized model minority myth, and family recognition through achievement were assessed. Emotional self-control was negatively correlated with help-seeking attitudes among Asian American college students with a mean age of 20.10 ($N = 232$) (Kim, 2015), as well as among Asian American high school students ($N=106$; Kim & Lee, 2014). Internalized model minority myth was likewise negatively correlated with help-seeking attitudes among Asian American high school students (Kim & Lee, 2014). However, collectivism, conformity to the norm, family recognition through achievement, and humility had no significant effect on help-seeking attitudes among Asian American high school students (Kim & Lee, 2014). Findings thus reveal the unique effects of various Asian values on help-seeking attitudes among Asian American populations.

Emotional self-control refers to the act of restraining, rather than expressing, one's emotions (Kim, 2015). Among Asian American college students, emotional self-control was negatively correlated with help-seeking attitudes ($r = -.34, p < .001$), and help-seeking attitudes

were positively correlated with willingness to see a counselor ($r = .46, p < .001$; Kim, 2015). In effect, emotional self-control had a negative impact on willingness to seek counseling (Kim, 2015). The negative effect of emotional self-control on help-seeking was also supported by Kim and Lee's study assessing Asian American high school students ($N=106; r = -.31, p = .001$; Kim & Lee, 2014). These findings are consistent with previous studies showing a significant hindering effect of emotional self-control on help-seeking behavior among Asian Americans (Kim, 2015). Furthermore, results support the idea that emotional self-control, which favors emotional restraint, is antithetical to the emotional openness characteristic of counseling (Kim, 2015).

Model minority myth refers to the idea that Asian Americans are the exemplary minority racial group in the U.S., in areas such as academics and professional life (Kim & Lee, 2014). Internalized model minority myth was a significant predictor of help-seeking attitudes among Asian American high school students ($B = -.10, t(102) = -2.11, p = .038$; Kim & Lee, 2014). However, while internalized model minority myth was a significant predictor of humility ($B = -.18, t(102) = -2.12, p = .036$), humility was not a significant predictor of help-seeking attitudes ($B = .02, t(97) = 0.29, p = .773$; Kim & Lee, 2014). Thus, internalized model minority myth does not exert a significant indirect effect on help-seeking attitudes through the intermediary role of humility (Kim & Lee, 2014). However, the finding that humility is not a significant predictor of help-seeking attitudes counters previous studies conducted by David (2010) and B. S. K. Kim (2007), which show an inverse correlation between humility and help-seeking attitudes among Asian Americans (Kim & Lee, 2014).

Interestingly, internalized model minority myth was directly related to emotional self-control ($B = .29, t(102) = 3.32, p = .001$), and in turn, emotional self-control was inversely

related to help-seeking attitudes ($B = -.17, t(97) = -3.01, p = .003$; Kim & Lee, 2014). This further suggests that internalized minority myth has an overall hindering effect on help-seeking attitudes, through the intermediary role of emotional self-control (Kim & Lee, 2014).

Additionally, collectivism ($B = .09, t(97) = 1.29, p = .199$), conformity to the norm ($B = -.002, t(97) = -0.03, p = .976$), and family recognition through achievement ($B = .05, t(97) = 0.77, p = .441$) were statistically non-significant predictors of help-seeking attitudes (Kim & Lee, 2014). Such findings counter a previous study conducted by David (2010), which indicated that all three factors were associated with less favorable help-seeking attitudes among Asian Americans (Kim & Lee, 2014).

Generational status (whether participants were 1st, 1.5, or 2nd generation) did not significantly moderate the effect of Asian values on the willingness to seek counseling ($Td(10) = 13.976, p = .17$; Choi & Miller, 2014). Foreign-born Asian Americans were considered 1st or 1.5-generation, and U.S.-born Asian Americans were considered 2nd generation (Choi & Miller, 2014). These findings are surprising, because they suggest that the different cultural backgrounds of Asian Americans, whether they are born in Asia or in the U.S., do not alter the impact of Asian values on the willingness to seek counseling (Choi & Miller, 2014).

CHAPTER IV: DISCUSSION

This meta-analysis examined factors on each level of the social-ecological model that affect help-seeking behavior, for the treatment of depression and anxiety among Asian Americans. Both barriers and facilitators to help-seeking were found on multiple levels of the model. Barriers to help-seeking existed primarily on the institutional and societal levels, and included public and personal stigma, emotional self-control, and lack of English proficiency. On the institutional level, financial and academic concerns were also significantly associated with elevated levels of psychological distress among Asian American college students (Kim, 2016).

On the other hand, protective factors were observed primarily on the individual and interpersonal levels. Facilitators to help-seeking included etiological beliefs toward depression among Chinese Americans, as well as peer connection among Asian American college students. These results suggest that factors on the lower levels of the social-ecological model may have a greater protective effect on help-seeking behavior, while factors on the upper levels may have a greater hindering effect. This observation may be due to the fact that institutional and societal-level structures are less able to cater to the unique experiences of minority populations, causing unfavorable health outcomes within underrepresented groups. It may also be due to the fact that, even if barriers on the institutional and societal levels are identified, it is more difficult to enact change on a larger scale than on a smaller scale. Thus, the uneven distribution of protective and hindering factors across the social-ecological model may warrant the use of models within specific levels of the model. For example, the Health Belief Model could be used to specifically examine the effects of individual-level beliefs on help-seeking behavior among Asian Americans (Rosenstock et al., 1988). Additionally, social cognitive theory could further examine the effects

of social interactions on help-seeking behavior, on the interpersonal level (Rosenstock et al., 1988).

Interestingly, religious beliefs on the individual level were not addressed in the literature search. For example, the impact of neither Daoist nor Buddhist beliefs was found in the literature search. This was surprising, as these religions are widely practiced in Asian countries such as China, and would likely influence help-seeking behavior on the individual level (Kitagawa, 2016). The lack of literature on these religions may merely be a reflection of the relatively few number of studies on Asian American mental health. However, Confucianist ideals, such as interpersonal harmony, were examined in the literature search. The focus on Confucianism, as opposed to Daoism and Buddhism, may be due to the growing body of evidence that interpersonal relationships have significant effects on psychosocial outcomes in college students (Polk et al., 2018).

Individual Level Factors

On the individual level, etiological and illness beliefs had significant impacts on help-seeking behavior among Asian American adult and college populations. While various etiological beliefs had a distinct impact on help-seeking behavior, biological etiological beliefs are unique in their reflection of Traditional Chinese Medicine philosophies. Specifically, biological etiological beliefs reflect the somatization beliefs central to TCM, which uphold that diseases, even mental illness, tend to manifest in physical symptoms (Wong et al., 2009). As such, biological etiological beliefs and beliefs toward TCM efficacy may be stronger in Asian Americans with greater enculturation to Asian values, and thus impact help-seeking behavior to a greater extent, a finding reflected in Wong et al.'s results (Wong et al., 2009).

In particular, Wong et al. found that among Asian Americans with higher enculturation to Asian values, biological etiological beliefs promoted help-seeking to a greater extent (Wong et al., 2009). In effect, Asian Americans who more greatly espouse Asian values may be more likely seek help if they observe physical symptoms of depression. Wong's findings also support previous studies by Kung and Lu, which found that the biological attribution of depression correlated with greater help-seeking among Chinese Americans (Wong et al., 2009). Such findings have significant implications for help-seeking behavior among Asian Americans, because individuals who do not observe physical symptoms of depression may not seek help, even if they show psychological symptoms of depression.

Spiritual etiological beliefs also significantly improved help-seeking attitudes among Asian American college students, but through mediating the negative impact of emotional self-control on help-seeking attitudes (Kim, 2015). Spiritual causes of depression include curses, ancestral punishment, and greater powers that are believed to act on the individual (Kim, 2015). The positive, albeit indirect, impact of spiritual etiological beliefs on help-seeking attitudes is a hopeful departure from previous studies, which suggest that spiritual etiological beliefs hinder help-seeking behavior among Asian Americans (Kim, 2015). Similarly, situational etiological beliefs also promoted help-seeking behavior among Asian American adults (Wong et al., 2009). Because situational etiological beliefs view one's present circumstances as the cause of depression, situational etiological beliefs may make it easier for individuals to seek help by placing blame on one's situation, rather than on one's disposition or shortcomings.

Chinese American immigrants were largely able to label their depressive symptoms as a mental disorder or mood disorder, a finding that contradicts previous studies suggesting that Asians may be alexithymic (Chen et al., 2015). This finding further suggests that the cultural

interpretation of depression may not vary as greatly between Eastern and Western countries, as previously proposed (Chen et al., 2015). However, the ability to label one's depression as a disorder did not appear to improve perceptions toward seeking treatment, as Chinese Americans still largely endorsed self or lay help over professional help (Chen et al., 2015). Because the study subjects were Chinese American immigrants, however, they may hold unfavorable views toward professional treatment due to a variety of factors. Potential factors include perceived language or financial barriers to treatment, which both correlated with unfavorable help-seeking intentions among limited English proficiency individuals. Moreover, Chinese American immigrants may not endorse professional help because they do not believe Western psychiatric practices are effective for treating mental disorders. This hypothesis may be supported by the fact that foreign-born Chinese Americans believed TCM was more effective for treating mental illness than did their U.S.-born counterparts, though a greater belief in TCM efficacy does not necessarily entail a lesser belief in Western psychiatric treatment (Yang et al., 2009).

The impact of biological, spiritual, and situational etiological beliefs at the individual level has significant implications for policy change at the institutional level. Specifically, educational efforts at the institutional level should aim to positively alter the etiological beliefs of Asian American populations, in an effort to promote help-seeking behavior. Educational programs should enforce the belief that one's depression is caused by situational or biological factors, which both promoted help-seeking behavior, rather than by personal failure, which correlated with lower odds of help-seeking (Wong et al., 2009). Furthermore, educational efforts should mitigate specific beliefs associated with personal failure, such as shame, guilt, failure to meet the expectations of others, or failure to achieve one's goals (Wong et al., 2009). Programs may also consider catering separately to Asian American populations with low and high levels of

enculturation, since they experienced different effects of biological etiological beliefs and personal failure beliefs.

Interpersonal Level Factors

On the interpersonal level, interpersonal causes of depression, such as relationship conflicts or lack of social network, significantly decreased the odds of help-seeking among Asian American undergraduate students with low levels of enculturation to Asian values (Wong et al., 2009). However, interpersonal causes of depression had no effect on help-seeking behavior among students with high levels of enculturation to Asian values (Wong et al., 2009). This finding is surprising, given that higher enculturation to Asian values entails greater espousal of collectivist ideas, which emphasize interpersonal harmony and conflict resolution (Wong et al., 2009). However, Wong's finding may be explained by the fact that Asian American students with low levels of enculturation are actually less troubled by interpersonal causes of depression, because they view Asian values such as interpersonal harmony as less significant (Wong et al., 2009). Thus, students with low levels of enculturation to Asian values may show less help-seeking behavior, for depression that is caused by interpersonal conflict (Wong et al., 2009).

Moreover, the Asian American students in Wong's study may not be representative of the larger Asian American population, because they were relatively young, educated, and Internet-proficient (Wong et al., 2009). Future studies should sample a more diverse group of Asian American students to better understand the relationship between interpersonal causes of depression, enculturation to Asian values, and help-seeking behavior.

Also at the interpersonal level, both peer connection and positive interpersonal relationships had protective effects on the mental wellbeing of Asian American high school students (Polk et al., 2018). These findings support previous studies showing a significant effect of social connection on student psychological outcomes (Polk et al., 2018). Moreover, students with greater levels of social connection had significantly higher GPAs than their peers, highlighting the positive correlation between interpersonal relationships and academic performance (Polk et al., 2018).

However, the relationship between academic achievement and mental wellbeing is complicated by the fact that Asian American college students also attributed greater academic concerns to their psychological distress than did their White peers (Kim, 2016). Thus, academic factors play a nuanced role among Asian American students: academic factors are associated with lower levels of depression in high school students, but with higher levels of psychological distress in college students. These findings may be explained by differences in age and academic pressures between the student populations. Additionally, the larger size of the high school sample may make its findings more robust, though an equal sample size of Asian American college students would have to be assessed for a fair comparison of findings.

Asian American female students showed lower levels of wellbeing, less positive student-teacher relationships, and higher levels of depression than their male counterparts (Polk et al., 2018). This finding may help explain the high rate of suicide deaths among Asian American female adolescents aged 15-24, though further research is needed to assess this correlation (Lee et al., 2009). This result also highlights a need for further research on the psychosocial experiences of Asian American female students in academic settings, to better understand and address high rates of suicide in the population.

Just as with the individual level, interpersonal level findings have significant implications for change on the institutional level. Greater peer connection should be encouraged by academic institutions, possibly in the form of providing peer academic mentors. The introduction of peer mentors could have a two-fold, positive effect on Asian American students: firstly, peer mentors could offer interpersonal support to Asian American students, which correlates with lower levels of depression and social marginalization; secondly, peer mentors could help reduce academic concerns among Asian American students, lowering levels of psychological distress while improving academic outcomes. Moreover, studies show that college students who use peer mentor services experience reduced stress and anxiety, and show increased engagement with peers (Snowden et al., 2012). Thus, Asian American high school students may also benefit from peer mentor programs, which are less common in high schools than in colleges. Peer academic mentor programs could ultimately increase peer connection, decrease levels of depression, and decrease academic attributions of distress.

Institutional Level Factors

At the institutional level, language and financial barriers were both significantly related to decreased help-seeking behavior. However, the effect of limited English proficiency on service utilization remains unclear, as one study showed that limited English proficiency Asian American adults had lower utilization rates (Bauer, 2010), while a second study showed no difference in utilization rates between limited English proficiency and English-proficient individuals (Kim et al., 2011). These different results may be due to differences in sample size, as Bauer's study sampled N= 2,095 Asian American adults, while Kim's study sampled N=372 Asian American adults. However, Bauer's findings are supported by the fact that Asian

Americans with limited English proficiency may exhibit lower utilization rates due to a greater enculturation to Asian values that hinder help-seeking. Asian values that hinder help-seeking include emotional self-control, which was found to significantly diminish the willingness to seek counseling among Asian American college students (Kim, 2015).

Regardless of the conflicting results, other findings suggest that limited English proficiency does exert a negative effect on help-seeking behavior. Firstly, limited English proficiency individuals were less likely to identify a need for treating their mental disorders than their English-proficient counterparts (Bauer, 2010). Limited English proficiency individuals may be less likely to identify a need for treatment due to cultural differences in the labeling of depression, or due to insufficient knowledge on the American mental healthcare system. And while Chinese American immigrants at the South Cove Community Health Center primarily labeled their depressive symptoms as a mental or mood disorder, the Asian American individuals in Bauer's study may be more hesitant to label their symptoms as depression, due to different levels of enculturation to Asian values (Chen et al., 2010). Additionally, Kim's finding, that Asian American adults with limited English proficiency are generally unaware of their mental health problems, may also help explain their lower identified need for treatment (Kim et al., 2011).

Asian American adults with limited English proficiency lived with mental disorders for longer periods of time than their English-proficient counterparts, a finding that further implicates language barriers as a significant factor in service underutilization (Bauer, 2010). In effect, not only are limited English proficiency Asian American adults less likely to identify a need for treatment, they are also more likely to live with mental illnesses for longer periods of time (Bauer, 2010). Moreover, Asian American adults with Limited English proficiency were less

likely to have health insurance than their English-proficient counterparts (Bauer, 2010).

Considered holistically, these findings suggest that Asian American adults with limited English proficiency are indeed at greater risk for underutilizing mental health services than their English-proficient counterparts, and deserve greater attention in the study of Asian American mental health disparities.

Findings on service utilization among Asian Americans with limited English proficiency have implications on the interpersonal and institutional levels. On the interpersonal level, healthcare professionals should provide more culturally competent care to limited English proficiency individuals, through providing culturally diverse training to staff members, or through offering more on-site translators for Asian languages like Mandarin Chinese. Educational policies at the institutional level should more closely target limited English proficiency Asian American communities. In particular, community health clinics may implement health literacy programs catered to low English proficiency Asian American communities. Such programs may help clarify the clinical symptoms of depression, provide knowledge on the policies of the American mental healthcare system, and grant individuals the autonomy to opt-in to mental health treatment.

Financial concerns to help-seeking were similarly observed among Asian American college students, at the institutional level. Asian American students more greatly attributed their elevated levels of psychological distress to financial and academic concerns than did their White peers (Kim, 2016). Moreover, financial barriers were significantly associated with lower odds of medication and therapy use in Asian American undergraduate and graduate students, compared to their White counterparts (Lipson, 2018). These findings are surprising, given the fact that Asian Americans have the highest median household income out of all racial groups in the U.S.,

and Asian Americans are not typically associated with financial concerns (U.S. Census Bureau, 2018). Such findings reveal the complex role of finances in seeking treatment, as Asian American students may have the money to seek treatment yet hesitate to do so, due to the desire to save money, or due to the fear of their parents finding out. On the institutional level, financial counseling could be provided to students by their colleges, as this service may help alleviate the financial concerns associated with seeking treatment. Financial counselors should also work closely with campus health clinics to identify treatment plans that are most financially favorable to clients, on a student-to-student basis.

Societal Level Factors

On the societal level, certain types of stigma and Asian values significantly hindered help-seeking among Asian American college students. These findings are not surprising, given previous studies that showed the negative impact of stigma on help-seeking behavior among college students, across all races (Eisenberg et al., 2009). Specifically, public stigma, personal stigma, and stigma by close others were found to hinder help-seeking among Asian American college students, suggesting that significant steps need to be taken to reduce the effects of stigma in the population. Stigma by close others may have an especially large impact on students who are more enculturated to Asian values, because Asian values tend to emphasize the opinions of family and friends. However, the significant effect of stigma by close others also suggests that family and friends can help significantly encourage help-seeking behavior. As a result, friends and family of Asian American students should be educated alongside students themselves, to most greatly improve help-seeking behavior. Education may be provided by school counselors or

community health centers, and seek to reduce harmful perceptions toward help-seeking across a student's primary social group.

Similarly, reducing the negative effect of public and personal stigma may greatly improve the willingness to seek counseling among Asian American students. However, because of the difficulty in altering society-wide norms, education and research may be the most promising routes of enacting societal-level change. The whole-community approach offers one such solution to promoting health behaviors on the macro-level, and may be effective in promoting help-seeking among Asian Americans (Wold & Mittelmark, 2018). This approach includes the use of education, health and social services, and political participation to promote health behavior (Wold and Mittelmark, 2018). However, to enact change on the societal level, researchers and shareholders would have to view service underutilization among Asian Americans as a greater public health crisis than is currently perceived. Moreover, generous funding and extensive interdisciplinary collaborations would have to occur for such a multi-layered solution to take place, making the model more applicable in theory rather than in practice.

Also on the societal level, the finding that emotional self-control and internalized model minority myth have negative effects on help-seeking attitudes is unsurprising, given the fact that both ideas espouse values that are antithetical to those upheld in therapy. In particular, both the model minority myth and emotional self-control espouse ideas of emotional restraint, composure, and lack of vulnerability, while therapy upholds values of openness, discussion, and exploration of one's emotions. The negative effect of internalized model minority myth may be especially problematic for Asian American college and high school students, who may be more greatly stereotyped by peers than are Asian American adults. This hypothesis is supported by the

fact that among college students surveyed at a large public university, Asian Americans were largely perceived by other racial groups as being more academically successful and motivated than their peers (Wong et al., 1998).

Consequently, Asian American students may be at greater risk to not seek help, due to pressures to uphold the model minority stereotype. As such, the model minority myth should be specifically addressed in mental health outreach to Asian American student populations, as well as in mental health outreach to the study body at large.

CHAPTER V: FUTURE DIRECTIONS

The cumulative findings of this literature review have significant implications for reform at each level of the social-ecological model. While the societal and institutional levels may be more difficult to enact change upon than the individual and interpersonal levels, they have the potential to impact the largest number of individuals in a society (Golden et al., 2015). As a result, previous public health interventions have largely focused on improving policies and organizations on the institutional and societal levels (Golden et al., 2015). However, macro-level reforms have been criticized for their overly-simplistic approach to resolving health disparities, compelling a shift to enacting change on the lower levels of the model (Golden et al., 2015). A key finding from this literature search, that factors promoting help-seeking primarily existed on the individual and interpersonal levels, also warrants a focus on the lower levels of the model for enacting change.

Change on the individual and interpersonal levels should be primarily enacted through reform on the institutional level. Change at the institutional level should take place in both clinical and research settings. In clinical settings, mental healthcare providers should focus on

assessing etiological beliefs toward depression, as these were shown to have a significant effect on help-seeking behavior. Mental healthcare providers should also aim to fully understand the root cause and logical progression of patient beliefs toward seeking help, as beliefs were shown to have both direct and indirect effects on help-seeking attitudes. Furthermore, providers should be aware of the potential significance of interpersonal influences on help-seeking behavior among college-aged clients, as well as the potential significance of language barriers among limited English-proficiency individuals.

Financial concerns should also be addressed by healthcare providers, even though Asian Americans have high levels of household income, because both limited English proficiency adults and college students endorsed financial barriers to treatment. Moreover, providers should be considerate of the differences in acculturation level, cultural background, and upbringing among Asian American clients.

Lastly, the findings of this study have significant implications for future clinical research. Future clinical research should examine specific Asian American ethnicities, rather than an aggregation of ethnicities, to better evaluate specific mental health needs among the population. Because the articles examined in this review reflect trends of aggregating Asian American minority groups, they failed to assess many differences among Asian ethnicities, such as differences in acculturation, education, language fluency, socioeconomic standing, and discrimination. Findings on the unique challenges experienced by limited English proficiency individuals also highlight the need to disaggregate Asian American subpopulations in future research. Additional limitations of the studies include a sampling bias that may have favored Asian Americans who are more acculturated to Western values, because they may be more capable of participating in English-language research studies.

CHAPTER VI: CONCLUSION

This thesis attempted to explore factors affecting help-seeking behavior for the treatment of anxiety and depression among Asian Americans, using the social-ecological model as a framework of analysis. Through the literature search, both facilitative and hindering factors were found. On the individual level, certain etiological beliefs promoted help-seeking behavior; on the interpersonal level, peer connection promoted help-seeking attitudes; on the institutional level, financial and language barriers discouraged help-seeking behavior; and on the societal level, certain types of stigma and Asian values discouraged help-seeking behavior.

While challenges to increasing utilization rates may persist, it is valuable to continue pushing for increased help-seeking behavior among Asian American populations, across multiple levels of the social-ecological model. Hopefully, with more studies taking a holistic approach to examining health behaviors in at-risk populations, health disparities such as those found among Asian American populations will be largely mitigated in future generations.

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APPENDIX

Table 1: Literature Search Article Table

Author (year)	Design/ Purpose	Setting/ Sample	Outcome Measures	Main Findings
1. Bauer, AM (2010)	Methods: longitudinal (2002-2003 NLAAS survey) Purpose: To assess the effect of limited English proficiency (LEP) on mental health service utilization.	Sample: Asian American non-institutionalized adults, N= 2,095 Age = 18+	Language Proficiency (“How well do you speak English?”) Psychiatric Diagnosis and Disorder Severity (World Mental Health Initiative’s survey) Access to Care (“Have you used various services for mental disorders in their lifetime and within the past year?”) Barriers to care Quality of care	LEP Asian Americans: <ul style="list-style-type: none"> Those with mental disorders were significantly less likely to use mental health services (LEP 32.9% vs. EP 53.9%, $p<0.01$) Lived with untreated disorders for significantly longer (LEP 16.3 years vs. EP 9.0 years, $p<0.001$) Were less likely to identify a need for treatment (LEP 16.4% vs. EP 39.7%, $p<0.01$) Endorsed more barriers to entering treatment (LEP 8.0 vs. EP 4.9, $p<0.10$), and more endorsed a language barrier to entering treatment (LEP 36.2% vs. EP 0.0% $p=0.12$)
2. Chen, Justin A. et al. (2015)	Methods: cross-sectional, quantitative Purpose: To characterize illness beliefs of depressed Chinese American immigrants	Sample: Chinese immigrants diagnosed with depression at the South Cove Community Health Center N= 175 Mean age= 49.9 +/- 14.5	Multiple dimensions of illness belief (Explanatory Model Interview Catalogue (EMIC))	Chinese American immigrants: <ul style="list-style-type: none"> Were most likely to identify the name of their problem as Depressed mood/unhappiness/mood problems (35.3%), or Depression (as a mental disorder) (32.6%) Reported self-help/lay help as most helpful form of treatment (75.3%) Mostly endorsed psychosocial causes for depression (68.4%)
3. Choi and Miller (2014)	Methods: cross-sectional, quantitative Purpose: To evaluate the relationships between cultural values and	Sample: Asian American college students N=278 Mean age= 21.74	Asian values (Asian Values Scale– Revised survey) European American Values (European American Values Scale for Asian Americans survey)	The relationship between Asian and European American cultural values’ exogenous variables was statistically significant, $r = -.22, p < .01$. Generational status was not found to be a significant moderator of relationships.

	willingness to seek counseling.		Public stigma, stigma by close others, self-stigma Attitudes toward seeking help (Attitudes Toward Seeking Professional Psychological Help Scale–Short Form) Willingness to seeking counseling, (See a Counselor measure (WSC) survey)	AAPI individuals who espouse higher levels of Asian cultural values are less positive about mental health services and less willing to seek counseling when they feel stigmatized about seeking counseling. AAPI individuals who espouse higher levels of European American cultural values are also less likely to feel stigmatized about seeking counseling and have more positive attitudes toward professional help.
4.Hines et al (2017)	Methods: cross-sectional, quantitative Purpose: To evaluate the association between race and service utilization for mental health.	Sample: Asian American adults who met DSM-IV criteria for one of 5 diagnoses, including GAD and depression. N= 3,803 Mean age= < 56	Utilization of psychiatric services	Asian Americans: <ul style="list-style-type: none"> • Had lower odds of having ≥ 1 psychiatric visit compared to Whites [OR: 0.56 CI: 0.39, 0.82] • Had lower odds of ≥ 1 visit to the medical sector [OR: 0.49 CI: 0.30, 0.82] • Had lower odds of seeing psychiatrists for ≥ 8 visits [OR: 0.15 CI: 0.04, 0.54] and ≥ 12 visits [OR: 0.21 CI: 0.06, 0.77].
5.Kim, G et al (2011)	Methods: cross-sectional (survey) and qualitative (interview), quantitative Purpose: To examine the effect of limited English proficiency on mental health service use	Sample: Asian immigrant adults with a instrumentally determined mood, anxiety, and substance use disorder, sampled from the National Latino and Asian American Study (NLAAS) N=372 Mean age: 43.00 +/- 15.72	Limited English Proficiency (survey asking “How well do you speak English?”) Research-diagnosed psychiatric disorders (interview) Self-rated mental health (self-assessment) Use of mental health services	Having more psychiatric disorders (OR = 1.45, 95% CI = 1.14–1.84) and self-rated mental health (OR = 1.54, 95% CI = 1.18–2.02) were significantly associated with higher odds of mental health service use. LEP did not significantly affect mental health service use (OR = 0.30, 95% CI = 0.07–1.27).
6.Kim (2016)	Methods: cross-sectional, quantitative Purpose: To apply the Health Belief Model to understand Asian	Sample: Asian American undergraduate students experiencing elevated levels of psychological distress.	Psychological distress (Kessler Psychological Distress Scale) Attributions of distress Perceived severity	Asian Americans: <ul style="list-style-type: none"> • Had lower help-seeking intentions than White Americans ($\beta = -.44$, $SE = .13$, $p = .001$). • Indicated greater psychological distress than White Americans ($d = 0.20$) and less prior use of mental health services (Cramér’s $V = .21$).

	American mental health service utilization, compared to White Americans	N= 395 Mean age= 19.8	<p>Perceived susceptibility to mental health disorders (health literacy vignettes)</p> <p>Perceived benefits of treatment (Treatment Goals Measure survey)</p> <p>Perceived barriers (Social Stigma for Receiving Psychological Help Scale)</p> <p>Intentions to seek help (Intent to Seek Counseling Inventory survey).</p>	<ul style="list-style-type: none"> Attributed greater financial concerns ($d = 0.24$) and 2 a concerns ($d = 0.19$) to their distress Perceived less benefit ($\beta = -.26, SE = .11, p = .02$) and greater barriers ($\beta = .33, SE = .09, p < .001$) than White Americans. Reported greater stigma related to help seeking. Social stigma was significantly positively correlated with psychological distress ($R^2 = .22$), and significantly negatively correlated with treatment credibility ($R^2 = -.10$ (Table 2).
7.Kim (2015)	<p>Methods: cross-sectional, quantitative</p> <p>Purpose: To identify correlates of Asian American professional help-seeking behavior</p>	<p>Sample: Asian American college students in US</p> <p>N=232 Mean age= 20.10</p>	<p>Emotional self-control (Asian American Values Scale-Multidimensional survey)</p> <p>Professional help-seeking attitudes (Attitudes Toward Seeking Professional Psychological Help Scale)</p> <p>Willingness to see a counselor (Willingness to See a Counselor survey)</p> <p>Biological and spiritual etiology beliefs</p>	<p>Emotional self-control was significantly correlated with help-seeking attitudes ($r = -.34, p < .001$), which in turn was significantly correlated with willingness to see a counselor ($r = .46, p < .001$)</p> <p>Emotional self-control was significantly associated with willingness to see a counselor through the mediating mechanism of help-seeking attitudes (bias corrected [BC] 95% CI $[-.138, -.046]$).</p> <p>The moderating effect of biological beliefs on the relations between emotional self-control and help-seeking attitudes was significant ($B = .073, p = .026$).</p> <p>At low levels of biological etiology beliefs, the indirect effect was significantly negative (BC 95% CI $[-.172, -.070]$)</p> <p>Spiritual etiology beliefs' moderating effect on the relation between emotional self-control and help-seeking attitudes was significant ($B = .151, p = .000$).</p>
8.Kim, Paul Youngbin, & Donghun Lee (2014)	<p>Methods: cross-sectional, quantitative</p> <p>Purpose: To examine cultural factors underlying help-seeking attitudes of Asian American college students</p>	<p>Sample: Asian American undergraduates in USA.</p> <p>N=106 Age= high school</p>	<p>Help-seeking attitudes, (10-point Likert scale survey)</p> <p>Internalized model minority myth, (7-point Likert scale survey)</p> <p>Asian values (7-point Likert scale)</p>	<p>Internalized model minority myth ($r = -.23, p = .019$) and emotional self-control ($r = -.31, p = .001$) were significantly correlated with help-seeking attitudes.</p> <p>Internalized model minority myth was significantly and directly related to emotional self-control, $B = .29, t(102) = 3.32, p = .001$, which in turn was significantly and inversely related to help-seeking attitudes, $B = -.17, t(97) = -3.01, p = .003$.</p>

				Collectivism, $B = .09$, $t(97) = 1.29$, $p = .199$, and conformity to norms, $B = -.002$, $t(97) = -0.03$, $p = .976$, were unrelated to help-seeking attitudes.
9.Lipson, SK (2018)	<p>Methods: longitudinal (2012-2015), quantitative</p> <p>Purpose: To capture the state of mental health among students of color.</p>	<p>Sample: undergraduate and graduate students of color from over 60 colleges.</p> <p>N = 43,375 Mean age= 18-22</p>	<p>8 binary measures of mental health</p> <p>Knowledge and attitudes of mental health</p> <p>Help-seeking behaviors and related factors</p>	<p>Treatment by friends/family is highest among white (92%) and lowest among Asian (67%) students. Asians have the lowest levels of perceived need (47%).</p> <p>Perceived stigma is 23% (Asians), and 35% for Asian international students. Treatment ranges from 23% (Asians) to 46% (white students). Asian international students have even lower treatment (19%).</p> <p>Experiencing discrimination and being financially disadvantaged are associated with significantly higher odds of mental health problems.</p> <p>Among those with a mental health problem, Asians have 64% lower odds of medication use and 51% lower odds of therapy.</p>
10.Polk et al (2018)	<p>Methods: cross-sectional, quantitative</p> <p>Purpose: To examine the relationship between social connection, mental health, and academics among Asian American high schoolers.</p>	<p>Sample: Asian American high school students</p> <p>N=645 Mean age= grades 9-11</p>	<p>All outcomes were assessed using a 5-point Likert-type scale;</p> <ul style="list-style-type: none"> • Discrimination • School interracial climate equity • Student-teacher relationships • Sense of belonging at school • Academic outcomes (school records) 	<p>Those with more peer connection and less marginalization had significantly higher GPAs and well-being and lower depression levels than their peers ($p < .001$)</p> <p>Asian American male students experienced a stronger sense of belonging ($F(1, 659) = 12.10$, $p < .01$), higher level of well-being ($F(1, 655) = 25.79$, $p < .001$), more positive student-teacher relationships ($F(1, 650) = 8/52$, $p < .01$), and lower levels of depression ($F(1, 651) = 48.22$, $p < .001$)</p>
11.Wong, YJ et al. (2009)	<p>Methods: cross-sectional</p> <p>Purpose: To investigate the relationships among lay beliefs about depression, enculturation to Asian values, and</p>	<p>N = 223 Mean age= 23.57</p>	<p>Asian American values (Asian American Values Scale-Multidimensional survey, or AAVS-M)</p> <p>Beliefs toward help seeking (vignettes)</p>	<p>Those who endorsed biological causes of depression were 1.65 times ($p = .001$) as likely to endorse professional help seeking.</p> <p>Belief in situational causes of depression was positively related to the likelihood of professional help seeking ($OR = 1.66$, $p = .001$).</p>

	likelihood of seeking help among Asian Americans.			<p>AAVS-M scores were inversely related to the likelihood of seeking professional help ($OR=.66$, $p=.004$).</p> <p>Among those with high AAVS-M scores, the belief that depression was caused by personal failure causes was significantly related to lower odds of endorsing professional help seeking, $OR=.63$, $p<.05$.</p> <p>Belief in interpersonal causes was significantly and inversely related to endorsing professional help seeking among low AAVS-M participants, $OR=.52$, $p<.05$.</p> <p>Among high AAVS-M participants, the odds of endorsing professional help seeking were significantly higher if they also endorsed somatic consequences of depression, $OR=1.80$, $p<.05$.</p>
12. Yang, LH (2009)	<p>Methods: cross-sectional</p> <p>Purpose: To examine how illness beliefs affect perceptions of Traditional Chinese Medicine efficacy and service underutilization.</p>	<p>Sample: Chinese Americans in the continental U.S.</p> <p>N= 90</p> <p>Age: 41.8</p>	<p>Underlying dimensions of illness (telephone survey/vignettes)</p> <p>Perceived distinctiveness of psychiatric from general physical disorders (telephone survey)</p> <p>Beliefs of TCM efficacy (telephone survey)</p>	<p>Chinese-Americans endorsed TCM as less efficacious for psychiatric illness ($M = 2.28$, $SD = .97$) than for physical illnesses ($M = 2.88$, $SD = .82$; $t = 2.60$ (88), $p < .01$).</p> <p>U.S. born Chinese Americans ($n = 11$) found TCM to be less efficacious for psychiatric disorders ($M = 1.82$, $SD = .60$) than the China/Taiwan-born group ($n = 35$; $M = 2.46$, $SD = .98$).</p>

BIOGRAPHY

Joanna Chyu was born and raised in Lubbock, TX. She will graduate summa cum laude from The University of Texas at Austin in May 2019, with a Bachelor of Science and Arts in Biochemistry and a Bachelor of Arts in Plan II Honors. In college, she served as President of the Natural Sciences Council (NSC), as an undergraduate research assistant, and as an Organic Chemistry teaching assistant. Her work has been published in The International Journal of Biomaterials, The Daily Texan, Spoon University, and NSC's Catalyst. She plans to take a gap year abroad before attending medical school, where she hopes to advance preventive care to underserved communities and to advocate for Asian American mental health issues.